

## **The Texas Clean Rivers Program: The Upstream Link to Galveston Bay Management**

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The Texas Legislature in 1991 passed the Texas Clean Rivers Act (Senate Bill 818). Emphasizing a regional, watershed-based approach to water quality management, the Act requires an assessment of water quality issues and management strategies in each of the state's 23 major river and coastal basins. H-GAC is leading this assessment effort for the San Jacinto River Basin and several coastal basins in the area, which together cover many of the key watersheds and tributaries that drain to Galveston Bay from the west and north (the Trinity River Authority is leading the assessment effort in its large river basin, which also is a critical input to Galveston Bay).

When the Texas Clean Rivers Program was initiated in 1992, the Galveston Bay National Estuary Program was already several years into its five-year mandate to complete a wide-ranging assessment of bay resources and issues and develop a comprehensive management plan. Since that time, the Clean Rivers Program has provided valuable support to bay management efforts through its identification and evaluation of upstream water quality concerns, coordination of water quality monitoring efforts, complementary public outreach activities, and logistical support to the Galveston Bay Estuary Program in the areas of data management and Geographic Information System (GIS) development.

### **Objectives**

In its authoritative *State of the Bay* report (GBNEP-44), the Galveston Bay National Estuary Program highlighted the generally good conditions in the open bay while confirming a variety of definite and potential water quality concerns in the bay's tributaries. Through the Clean Rivers Program, H-GAC has focused its efforts on identifying known and potential impairments to the designated uses of area rivers, creeks, bayous, lakes and bays. The Clean Rivers Act also required the creation of a regional Steering Committee to support the basin assessment, and H-GAC has used this committee to set priorities for ongoing study and management actions.

Under the Clean Rivers Program, H-GAC also had to pursue several tasks which the National Estuary Program was working toward at the bay level. Foremost among these were the drafting of a coordinated strategy for ongoing water quality monitoring in the area and an accompanying plan for coordinated data management.

## Method

By 1994, H-GAC and the other lead assessment agencies statewide had identified various water quality "concerns" and "possible concerns" in their basins. They did so by applying a data screening process to available surface water quality monitoring data (from the Texas Natural Resource Conservation Commission and the U.S. Geological Survey) for roughly a 10-year period from 1982 to 1992. H-GAC recently completed its 1996 Clean Rivers Program report, in which it refined the 1994 findings through further study and by incorporating more recent sampling data through 1995.

In addition to drawing on existing water quality data, H-GAC has been able to sponsor some limited new studies. 1995 marked the start of a much-anticipated water quality investigation of Dickinson Bayou in Galveston County. The project is designed to assess the extent and impacts of pollutant loadings into the bayou from storm runoff in the surrounding watershed. H-GAC is pursuing this project through an agreement with the U.S. Geological Survey and in partnership with TNRCC Region 12, the Galveston County Health District, Galveston County Water Control & Improvement District No. 1, the City of League City, and the Natural Resources Conservation Service (formerly the U.S. Soil Conservation Service). The U.S. Geological Survey expected to complete all elements of a one-year monitoring program by late 1996, and a final report of findings is anticipated in Spring 1997.

To improve ongoing data collection efforts in the area, H-GAC picked up in 1995 where the Galveston Bay National Estuary Program had left off at the end of 1994 with its *Regional Monitoring Program for the Galveston Bay Plan* (GBNEP-45). H-GAC formed a Regional Monitoring Group to begin the interagency coordination and plan development process that would, in effect, extend the bay monitoring strategy upstream into the freshwater tributaries covered by the Clean Rivers Program. Monitoring agencies and organizations represented on this work group include:

### Municipal

City of Houston Department of Health & Human Services, Environmental Health Division, Bureau of  
Public Health Engineering  
City of Houston Department of Public Works & Engineering

### County

Galveston County Health District  
Harris County Pollution Control

### Regional

Galveston Bay Estuary Program  
San Jacinto River Authority

### State

Texas Department of Health  
Texas Natural Resource Conservation Commission  
Texas Parks & Wildlife Department  
Texas Water Development Board

### Federal

National Marine Fisheries Service  
U.S. Environmental Protection Agency  
U.S. Fish & Wildlife Service  
U.S. Geological Survey

### Private

Galveston Bay Foundation

While all of these agencies have come together on a purely voluntary basis, what is motivating their participation is the fact that the Clean Rivers Program will enable H-GAC to serve as a regional clearinghouse so that all monitoring data will come to one central location. The clearinghouse concept will be built around the Internet, allowing for fast and convenient exchange of data between the agencies and other interested groups. And all of these agencies have agreed to collect their data under a single regional Quality Assurance Plan so that their data will be consistent and “shareable” in support of the clearinghouse idea.

H-GAC also is using the Clean Rivers Program to respond to concerns that regulatory agencies are making permitting and other decisions based on assumptions in the absence of adequate information on actual local conditions. Through Clean Rivers, H-GAC is sponsoring a study of actual low-flow conditions in the region’s streams, which is very important information in the discharge permit process for both the applicant and the Texas Natural Resource Conservation Commission (TNRCC). H-GAC also is joining with the U.S. Geological Survey to complete a bioassessment study of how fish and other aquatic life are affected by water pollution in the region, which will be important new information to guide water quality management efforts.

## **Results**

Through its assessment efforts under the Clean Rivers Program, H-GAC has shown that one can find examples in the region of both high-quality, largely unimpacted waters as well as streams and bays that have clearly been degraded by nearby human settlement and development activities. Specifically, H-GAC has identified concerns and possible concerns related to nutrients, elevated bacteria levels, total dissolved solids, trace metals, and other water quality parameters (all of which are detailed in H-GAC’s 1996 *Regional Assessment of Water Quality*). The result is that, amid an overall trend of generally good and improving water quality in area drainage basins, there still are problem areas to address and issues on which management agencies and residents must focus.

But underlying all of this is the overriding, long-term challenge for regional water quality management: to maintain and, where possible, improve the quality of area waterways despite the cumulative impacts that will come with projected population growth and ongoing urban development. And perhaps the most formidable task is the need to manage widely-dispersed, largely unregulated activities that contribute to "nonpoint source pollution," especially with diminishing returns from more stringent regulation of municipal and industrial "point source" discharges after several decades of significant progress there.

Now well into its fifth year, this unique state program has enabled H-GAC to create a regional forum for consideration of these water quality issues and priorities among local governments, resource agencies, business and industry, agriculture and forestry interests, conservation groups, and various other basin interests. Along with its member local governments, H-GAC had already been involved in regional water quality management for 20-plus years under the federal Clean Water Act. But the Clean Rivers Program has given H-GAC a clear leadership role -- and the resources to make significant progress on several regional management priorities. Chief among these has been the Steering Committee's desire to use the Clean Rivers Program to improve water quality management capabilities here at the regional level.

And by coordinating its Clean Rivers activities with the Galveston Bay Estuary Program office, H-GAC has already helped to implement several important recommendations in the *Galveston Bay Plan*, specifically in the areas of regional monitoring, GIS and data management. In particular, when it came time for the Estuary Program to reconvene a monitoring committee for the plan implementation phase under the newly-formed Galveston Bay Council, H-GAC and GBEP were able to build on H-GAC's existing Clean Rivers Regional Monitoring Group and form a joint committee to address the needs of both programs.

Just as the National Estuary Program resulted in unprecedented intergovernmental and public/private coordination to better manage Galveston Bay, the Clean Rivers Program is an innovative water quality program that has placed Texas in the lead among the states. Thanks to Clean Rivers, Texas has continued to make progress on water quality concerns in the 1990s even as Congress has failed to reauthorize the federal Clean Water Act for several years.